1. Let **A** be the rectangular region bounded above by the line y = 1, below by y = 0, on the left by x = 1, and on the right by x = 10. Let **B** be the region in the first quadrant between the curve  $y = 2x - x^2$  and the *x*-axis. Let **C** be the region bounded on the left by the curve  $x = 1 - \sqrt{1-y}$ , on the right by x = 10, above by y = 1, and below by the *x*-axis. Finally, let **D** be the region in the first quadrant bounded by the *x*-axis, the line x = 1, and the curve  $x = 1 + \sqrt{1-y}$ .

We know that 
$$f(x, y)dA = -4$$
,  $f(x, y)dA = 17$ , and  $f(x, y)dA = 3$ .  
Find  $f(x, y)dA$   
 $p$ 

**2.** A swimming pool surface has the shape of a rectangle 100 meters by 15 meters. The pool contains 9000 meters<sup>3</sup> of water. What is the average depth of the pool?

**3.** The average depth of a circular pond is 4 meters. If the pond contains  $3000 \text{ meters}^3$  of water, what is the radius of the pond?